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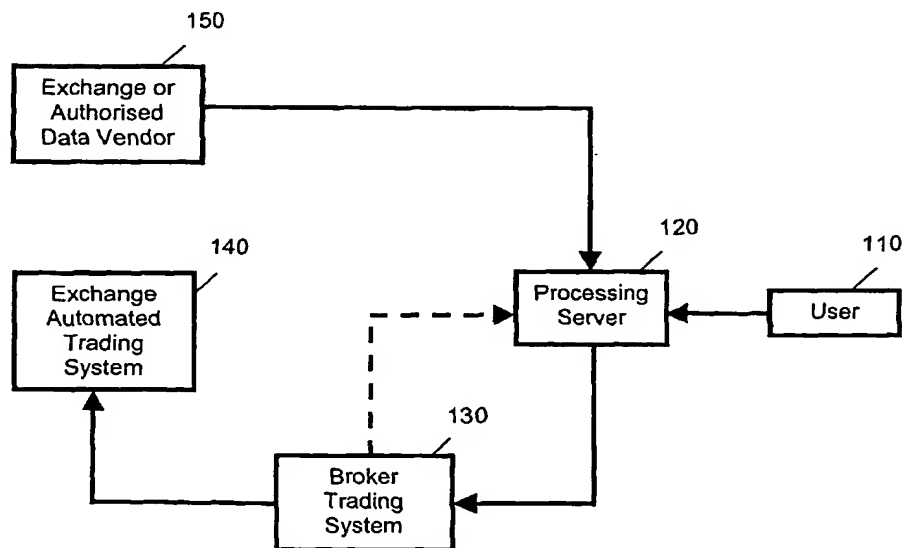
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[Continued on next page]

(54) Title: **PORTFOLIO MANAGEMENT SYSTEM**



(57) Abstract: There is disclosed a method of enabling electronic administration of a portfolio of exchange-tradeable equities and/or derivatives, the method comprising the steps of: implementing (120) a plurality of triggering rules, each being pre-defined to enable execution of a corresponding administrative action (130) relating to an equity and/or derivative, in response to monitored real-time market conditions (150) of the equity and/or derivative, the administrative action being an order and/or alert, and implementing pre-defined updating formulae to automatically adjust one or more triggering rule definitions according to pre-determined updating criteria.



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## PORTFOLIO MANAGEMENT SYSTEM

### TECHNICAL FIELD

This disclosure relates to managing portfolios of equities and/or derivatives, particularly exchange-tradeable equities and derivatives.

### BACKGROUND ART

The management of exchange-tradable equities and derivatives represents a significant market in retail financial services. Increasing numbers of retail investors actively trade portfolios of equities and/or derivatives as part of their investment strategy. Equities and derivatives brokers transact on behalf of retail and institutional investors.

Exchange-traded equities and derivatives are becoming increasingly popular financial instruments. With a growing population now owning some form of tradeable equities or derivatives financial instrument, it has become increasingly important to have a well-developed and functional strategy for both trading and managing such equities and/or derivatives.

Online brokers, however, have failed to deliver suitable systems to help support individual investors. Although brokers provide a gateway to buy and sell equities and in some cases derivatives, brokers have not generally attempted to provide tools to both protect the investor's money and support the pursuit of ongoing profits. Accordingly, many people have lost large amounts of money in the markets. The impact of this lack of protection was clearly evident during the "tech reck" where investors suffered large losses due to their inability to quickly react to market conditions.

Further, many investment advisers and portfolio managers suffered the same fate as the uneducated investor. With ineffective tools, advisers and portfolio managers alike were left illequipped to react to large drops in the prices of equities and derivatives. At the same time, these same people have often missed opportunities to capitalise on profitable exit points as they have not had the tools to proactively manage their client's positions and portfolios in line with pre-determined risk and investment objectives.

Over time, as markets experience volatility, there is a growing need for tools and systems to support the individual investor, investment adviser and/or portfolio manager – tools that work not just to help prevent large falls in a portfolio but also tools to help ensure a pre-determined trading plan or investment strategy is followed, in a disciplined manner.

It is desired to provide assistance in the management of equities and/or derivatives investment portfolios, so as to lock in profits and protect the capital using an active portfolio management/investment strategy. It is also desired for the ongoing requirement

for discipline when trading equities and/or derivatives in accordance with pre-determined parameters to become less dependent on human interaction. This reduction in the requirement for human discipline when monitoring positions can provide improved portfolio management capabilities and more effective and reliable trading strategies.

### DISCLOSURE

The system according to this disclosure is arranged to monitor multiple complex conditional parameters on equity and/or derivative portfolios in real time, and to generate triggering signals in accordance with predetermined triggering rules and formulae. Such triggering rules and formulae are written to execute various administrative actions, including conditional orders and/or various alerts, upon generation of the triggering signal.

The user of the system is able to advantageously manage complex trading strategies in real-time. Various conditional parameters related to price, time and volume are typically used, and can each be automatically and formulaically updated. Other relevant conditional parameters include company announcements and broker codes.

The triggering rules and formulae can be defined with respect to their specific functionality (eg, trailing) and/or their ability to combine with specific order types (eg, straddle on equities and options, trailing stop loss orders and trailing profit target orders).

Preferably, the system uses pre-defined routing paths in which to communicate with a variety of entities involved in the execution of conditional orders and/or alerts.

The system enables brokers and investment advisers to improve their services by allowing their investor clients to automate complex, integrated conditional orders and informational alerts associated with their equities and/or derivative portfolios. Brokers can integrate the functionality into existing broker trading systems.

However, brokers and investment advisers can also use the system to monitor specific risk conditions associated with their client's portfolio, and to provide consultation as necessary. Also, brokers and advisers can use the system if they want to trade on behalf of their clients and/or if they wish to monitor a large number of client portfolios at once, through the use of the wrap feature.

### BRIEF DESCRIPTION OF THE DRAWINGS

Various arrangements of the portfolio management system will now be described with reference to the drawings, in which:

Figs 1 to 5 are each schematic representations of components involved in respectively different paths for processing triggering signals,

Fig. 6 is a flowchart outlining example steps relating to an aspect of operation of the portfolio management system,

Figs. 7A, 7B and 8 are example screen shots associated with the user interface,

Fig. 9 is a schematic representation of a computer system used by a central administrator to implement an example configuration of the portfolio management system,

Fig. 10 is a schematic block diagram of the overall main functional components involved in the implementation of an example configuration of the portfolio management system,

Figs 11 to 16 are example screen shots associated with the user interface, and

Fig. 17 is a flowchart outlining example steps related to short selling when used in an example of the portfolio management system.

### DETAILED DESCRIPTION

#### Overview

Fig. 10 shows an example of an overview of the main functional components involved in the operation of a portfolio management system 10 as described herein. A stock exchange 121 marketplace is connected to a stock exchange interface 122, which is in turn connected to a central administration computer system 1000 and user equipment 110.

An example of such a stock exchange 121 would be the ASX, NZSE, TSE, OCH, SFE or the NYSE.

The stock exchange interface 122, computer system 1000 and user equipment are configured to enable mutual electronic communications over a computer network 1080, which in this example, is the Internet.

The stock exchange interface 122 provides two basic functions which are represented in Fig. 10 as a trading facility 123 and a data distribution facility 124. The trading facility 123 comprises a number of elements, and has the basic function of enabling communication to be made with the stock exchange 121, for trading purposes. Such trading can include placing orders to buy and sell equities and/or derivatives, orders to cancel, amend and the like. The trading facility 123 can be configured in various ways, although is frequently in the form of a combination of an exchange automated trading system and a screen-based, automated broker trading system. An example of an exchange automated trading system would be the SEATS system used by the Australian Stock Exchange (ASX), the arrangement will largely depend on the regulations of the relevant

jurisdiction in which the stock exchange operates. For example, some stock exchanges allow Straight Through Processing ("STP") for certain transactions while others do not.

The data distribution facility 124 provides access to stock exchange information, either directly or via an authorised data vendor in "real-time", meaning transfer of  
5 information with a delay of up to around 5 seconds.

Although one stock exchange 121 is shown in Fig. 10, it will be appreciated that multiple stock exchanges, each with their associated interfaces, can be connected to the central administration computer system 1000.

The data distribution facility 124 receives raw data from the stock exchange 121  
10 in sets of characters, and using a set of conversion rules, deciphers the received raw data into information about listed companies whose equities and/or derivatives trade on the stock exchange 121. A protocol such as FIX (Financial Information eXchange) can be used, although other proprietary protocols may also be used. Again, much will depend on local regulations.

15 In respect to equities, the information from the stock exchange 121 about listed companies and the associated market transaction which are processed by the data distribution facility 124, could include any one or more of the following parameters:

- ticker code,
- company announcements,
- 20 • last transaction price,
- bid and ask,
- number of shares transacted (ie, volume),
- number of buyers and sellers, and
- broker codes.

25 In respect to derivatives, the information may also include:

- security,
- expiry date,
- last traded price,
- bid and ask,
- 30 • option strike price, and
- volume traded.

The central administration computer system 1000 is typically maintained by a central administrator of the portfolio management system 10, although it will be

appreciated that in alternative arrangements, the central administering role can be performed by others, such as a broker or adviser.

Although the computer system 1000 and the user equipment 110 are connected to the Internet in the present example, in an alternative configuration, a virtual private  
5 network could be set up between the user equipment 110 and the computer system 1000. A suitable telecommunication solution (eg modem, ISDN, or DSL) is incorporated as necessary.

The computer system 1000 includes a processing server 120 including, at least, the following main software components:

- 10 (i) user interface program 131,
- (ii) verification program 132,
- (iii) database 133,
- (iv) memory area 134,
- (v) wrap service program 135,
- 15 (vi) update program 136, and
- (vii) paper trading model program 137.

The user equipment 110 represents an example of typical hardware equipment used to enter various user input information, such as triggering preferences and other investor criteria into the system 10. Such user input can be entered into the database 133  
20 through execution of the user interface program 131. In the example shown by Fig. 10, the user interface program 131 on the processing server 120 is accessed by the user equipment 110, over the Internet 1080.

The user equipment 110 is located in the office of an individual investor, authorised agent, broker or adviser, or a combination, depending on a desired  
25 configuration, usually determined by commercial arrangements.

The user equipment 110 includes a desktop personal computer (PC) 142, connected to each of a printer 141, a monitor 143, a keyboard 144 and a modem 145 to provide access to the computer network 1080. The PC 142 is loaded with software programs including a WWW browser, a browser controller and network or Internet  
30 connection software. The user equipment 110 can also include a mobile telephone 146, a radio frequency pager 147, a land line telephone 148 and a facsimile machine 149.

The processing server 120 will now be described in further detail. The database 133 stores a number of records including for example:

- definable triggers,

- newly incoming stock exchange information,
- historical stock exchange information,
- investor portfolio tables,
- conditional order and alert instruction tables,
- 5     • company announcement codes,
- broker codes,
- investor personal risk profile tables, and
- adviser preference tables.

10     In operation, the processing server 120 receives stock exchange data from the data distribution facility 124 in substantially real-time. This received data is then deciphered into a meaningful format and stored in the database 133.

15     The verification program 132 operates to continuously interrogate the database 133, for matches with triggering rules and formulae, to be described. If a conditional parameter defined within a triggering rule is satisfied, the verification program 132 generates a triggering signal, which in turn causes an administrative action to be executed, such as an order instruction, alert instruction and/or reporting instruction.

A triggering signal can be processed in a number of ways, resulting in one of a number of routing "paths" by which the associated administrative action is executed.

20     *Path (i):* Referring to Fig 1, the trading facility 123 of Fig. 10 is provided by the combination of a broker trading system 130 and an exchange automated trading system 140. The broker trading system 130 is typically located in the office of a stock broker member of the stock exchange 121. Similarly, the data distribution facility 124 is provided by an exchange or authorised data vendor 150. When an order triggering signal is generated by the verification program 132 on the processing server 120, an order instruction is sent to the broker trading system 130. The broker trading system 130 vets  
25     the received order instruction and forwards same to the exchange automated trading system 140 for execution. The broker trading system 130 automatically sends an order confirmation signal back to the processing server 120, which interprets the confirmation signal and automatically updates the investor portfolio table on the database 133.

30     *Path (ii):* The path of Fig. 2 is similar to that of Fig 1, except that an authorised agent 125 is additionally involved in the function of the trading facility 123. An authorised agent 125 is a person or body authorised by way of agreement, to transact trades on behalf of an investor. The authorised agent 125 is a distinct entity to the stock broker, who



operates the broker trading system 130. When an order triggering signal is generated, a message is sent from the processing server 120 to the authorised agent 125. The authorised agent 125, who vets the message and communicates an associated order to the broker and/or the broker trading system 130, either electronically or by telephone.

5       The authorised agent 125 holds investor details, such as account numbers and transaction details. The authorised agent 125 either enters the investor's details into the broker trading system 130 and sends the order, or confirms and authorises the order for automatic transaction either by the exchange automated trading system 140. The broker trading system 130 or the exchange automated trading system 140 receives the order  
10       instruction and executes the order accordingly. An order confirmation signal is sent from the broker trading system 130 back to the processing server 120. The order confirmation signal ultimately originates with the exchange automated trading system 140. Once confirmation of the order is received through the broker trading system 130, the authorised agent 125 fills in or accepts an order confirmation screen that allows them to confirm the  
15       status of the order, the transaction price and the details of any parcels. This information is then stored within a transaction table that contains all of the user transactions. At the end of each day, an order summary that refers to a log of all orders executed during the day by the broker trading system 130 is sent to the processing server 120. The processing server 120 then compares for errors the actual orders transacted with the transaction table.

20       *Path (iii):* Referring to Fig. 3, the trading facility 123 of Fig. 10 is provided by the combination of a broker trading system 130 and the exchange automated trading system 140. However, the processing server 120 is located in the stock broker's office. When an order triggering signal is generated, an order instruction is sent directly to the broker trading system 130, which receives and executes the order instruction via the  
25       exchange automated trading system 140. An order confirmation signal is sent from the exchange automated trading system 140 back to the broker trading system 130. The order confirmation signal is interpreted and the investor portfolio table on the database 133 is automatically updated either through the broker trading system 130 or directly to the processing server 120.

30       *Path (iv):* Referring to Fig. 4, when an alert triggering signal is generated by the processing server 120, an alert instruction is executed which results in a risk management message being sent to the adviser or individual investor, who can evaluate the current position and consider the impact on the inventor or themselves having regard to their risk profile and overall investment strategy.

*Path (v):* Referring to Fig. 5, when an order triggering signal is generated by the processing server 120, the investor portfolio table is updated and, an alert is sent to a paper trading simulator 130', the function of which will be later described.

Referring to Fig. 9, the hardware aspects of the computer system 1000 are shown.  
5 This hardware is used for executing computer software associated with the processing server 120. This computer software executes under a suitable operating system installed on the computer system 1000.

The computer software associated with the processing server 120 is based upon a program comprising a set of programmed instructions that are able to be interpreted by the  
10 computer system 1000 for instructing the computer system 1000 to perform predetermined functions specified by those instructions. The computer program can be an expression recorded in any suitable programming language comprising a set of instructions intended to cause a suitable computer system to perform particular functions, either directly or after conversion to another programming language.

15 The computer software is programmed using statements in an appropriate computer programming language. The computer program is processed, using a compiler, into computer software that has a binary format suitable for execution by the operating system. The computer software is programmed in a manner that involves various software components, or code means, that perform particular steps in accordance with the  
20 techniques described herein.

The hardware associated with the computer system 1000 includes: a computer 1020, input devices 1010, 1015 and video display 1090. The computer 1020 includes: processor 1040, memory module 1050, input/output (I/O) interfaces 1060, 1065, video  
25 interface 1045, and storage device 1055. The computer system 1000 can be connected to one or more other similar computers, using a input/output (I/O) interface 1065, via a communication channel 1085 to the network 1080, represented as the Internet.

The processor 1040 is a central processing unit (CPU) that executes the operating system and the computer software executing under the operating system. The memory  
30 module 1050 includes random access memory (RAM) and read-only memory (ROM), and is used under direction of the processor 1040.

The video interface 1045 is connected to video display 1090 and provides video signals for display on the video display 1090. Input to operate the computer 1020 is provided from input devices consisting of keyboard 1010 and mouse 1015. The storage device 1055 can include a disk drive or any other suitable non-volatile storage medium.

Each of the components of the computer 1020 is connected to a bus 1030 that includes data, address, and control buses, to allow these components to communicate with each other via the bus 1030.

The computer software can be provided as a computer program product recorded on a portable storage medium. In this case, the computer software is accessed by the computer system 1000 from the storage device 1055. Alternatively, the computer software can be accessed directly from the network 1080 by the computer 1020. In either case, an operator can interact with the computer system 1000 using the keyboard 1010 and mouse 1015 to operate the computer software executing on the computer 1020.

The computer system 1000 is described only as an example for illustrative purposes. Other configurations or types of computer systems can be equally well used to implement the described techniques.

#### **Conditional Order Instructions**

A conditional order instruction is enabled or executed when a definable trigger associated with an order, is satisfied.

A conditional order instruction for an equity could be created using the following input data fields (order preferences) and trigger associations (conditions):

- order type (eg, buy or sell),
- stock exchange identification,
- ticker code,
- quantity of shares,
- trigger price,
- trigger volume,
- duration of order,
- upper limit, and
- lower limit.

Referring to Fig 15, a screen shot of the user interface program 131 is shown, in which a conditional buy order instruction is being created. Since the system 10 can take limit orders, the user interface program 131 contains graphical or text based references to lower limits, upper limits and volumes.

A number of equity order instruction examples will now be discussed, although it will be appreciated that order instructions can be similarly prepared for options and derivative combinations.

Type 1: BUY – trigger price (various triggers available) with upper limit: user specifies a trigger price to begin buying the share and an upper price they are willing to pay.

Type 2: BUY – trigger price (various triggers available) with no upper limit: user specifies a trigger price to begin buying the security and no upper limit.

Type 3: SELL – trigger price (various triggers available) with lower limit: user specifies a trigger price and a lower limit on the sell order.

Type 4: SELL – trigger price (various triggers available) with no lower limit: user specifies a trigger price and no lower limit on the sell order.

Orders are most favourably executed, given the bids and offers current on the exchange information.

An example of the input data fields and trigger associations (conditions) used to create a conditional order instruction for derivatives, such as options, is as follows:

- stock exchange identification,
- ticker code,
- strike price,
- options price,
- number of contracts,
- trigger volume,
- duration of order,
- upper limit, and
- lower limit.

The user can combine a number of trigger associations (conditions) on both equities and/or derivatives at the same time.

Referring to Fig. 11, an option writer provided by the user interface program enables the user to determine a key resistance level on the underlying equity, and to write calls or execute a specific options/derivatives strategy. When the target for the options alert is hit, the adviser is prompted to determine if writing the options is reasonable at that time. Advice may be given or not given at the time of the order. When the target for the

option is hit, the system may also trigger an automated order through a broker automated trading system.

Referring to Fig. 12, the user has decided to trade long in the physical stock with a conditional order. In this order, the user wants to see a particular equity (eg, NCP) rally or  
5 fall to 10.00, so that the adviser will then be prompted to buy "at market" or at "limit". Upon confirmation of the buy order, the system will immediately begin watching the trade for the purpose of the profit target.

At the same time, the options writer parameters will alert the adviser and client when the share price is less than 9.75 so they can purchase a put, to protect the position.  
10 This process may also trigger an order to an electronic system which will execute an options transaction automatically.

Referring to the screen shot of Fig. 13, due to the volatility of a particular equity (eg, NCP), this user has elected to write calls on NCP which are short dated. This means they will need to watch the underlying share price carefully. To assist, they complete the  
15 share alert section where they request a simple alert with no planned strategy (i.e. volume to buy or sell). As the alert is not necessarily an order, there are no exit parameters entered.

Referring to the screen shot of Fig 14, in this trade the user has sold short dated NCP calls. In this case however, the share alert enables the user to buy the physical stock  
20 automatically if the price of the stock rises above a specific price, to a specific limit. In this case, the user has elected to have exit criteria put on the purchase of the stock so they are protected. This user would have an account that facilitates STP (straight through processing) to the stock exchange 121.

#### 25 Alert Instructions

The user interface program 131 can be used to create conditional alert instructions, so that when an alert triggering signal is generated, a risk management message is advantageously sent to a manager of the portfolio, who could be one of the earlier identified investor, broker or adviser. Alerts can be sent using any suitable means,  
30 including email, Short Messaging Service ("SMS") or pager messaging and could include for example:

- Portfolio Performance Alerts,
- Price Alerts,

- Volume Alerts,
- Announcement Alerts, and
- Delta Alerts (Derivatives).

However, the nature of the alerts envisaged by this disclosure are not limited to those  
5 above, as will be later discussed.

### Triggers and Alerts

The following is a discussion of the input parameters related to real-time market conditions which can be used in the creation of triggering rules. When satisfied, a  
10 triggering rule generates a triggering signal to execute an administrative action such as a conditional order instruction, alert instruction or otherwise.

**Price Triggers:** A user can specify a large number of parameters to create various price triggers. The nature of the price trigger will largely depend on a chosen  
15 application of the system and can be personalised by a desired outcome. For example, a stop price trigger could be written to generate a triggering signal whenever a trading price reaches or falls below a predetermined stop price. The trigger may be to sell or to alert the user. Similarly, a profit target trigger could be written to generate a triggering signal whenever a trading price reaches a particular profit level.

20 The user can enter trigger price parameters manually and/or can have them automatically re-calculated on an ongoing basis using a number of mechanisms such as percentage calculations and other updating formulae described herein.

**Trigger Delays:** A user can specify whether they wish the verification program  
25 132 to begin monitoring the definable triggers a certain number of minutes after an exchange has opened, when placing an order. The user enters or selects from any desired number of minutes, which the verification program 132 uses to confirm the definable trigger. An alert is not sent or the verification program 132 is not started if the time period from the opening of the exchange is less than the number of minutes delay specified by the  
30 user. The processing server 120 uses the start time at which the exchange information began (as captured by the processing server 120) and/or a pre-programmed start time for the exchange automated trading system 140 to verify if the time meets the user's criteria.

**Volume Triggers:** The system uses a predetermined formula to monitor the trading volume of an equity and/or derivative throughout a trading day. The processing server 120 monitors and stores exchange information for future use in calculating volume triggers. Volume can be specified in any one or more of the following manners:

5

(i) *Directional Volume:* The system can facilitate counting volume in one or two directions. That is, a user can define that they wish to count only trading volume which occurs within a specific direction. The system monitors real-time directional volume by calculating the overall intra-day trend of the market by comparing the last traded price (trade 2) to the previous trade price (trade 1). If trade 2 is higher than trade 1 then the system adds the volume to the "buy volume". If the trade 2 is less than trade 1 then the system adds the volume to the "sell volume". Where the price of trade 1 and trade 2 is the same the system reviews where the last volume was added (i.e. buy or sell volume) and adds it to that type. There are other rules which can be applied to directional volume including the addition of timing rules to capture volume from the beginning of the day or at the time in which the order is placed.

10

The system can also count volume when the price of the equity or derivative increases above a specific trigger price, or if the price of the equity or derivative decreases below a specific trigger price.

15

(ii) *Directional Volume within predefined limits:* The system facilitates counting volume in two directions (as with directional volume), or combined with calculations which only calculate directional volume if the price is between one or two limits. Users can specify that they wish to count directional volume when the price is below a certain point (namely, all transactions below an upper limit) or they can set both an upper and a lower limit and have the system calculate the directional volume between these limits.

20

(iii) *Deviation Volume:* A triggering signal can be generated when the volume (queried either intra-day or at the end of the day by the processing server 120) exceeds some specific amount above a predetermined value, such as average daily volume. The average daily volume can be determined using any appropriate function of the volume of an equity or derivative such as total daily volume divided by a specific definable period, or as a percentage of the average daily volume calculated over a specific definable period.

25

30

(iv) *Broker Volume*: A triggering signal can be generated when the broker volume increases above a predefined amount. Broker volume refers to the number of equities or derivatives purchased, sold or on order in the exchange automated trading system 140 by any specific broker – all brokers are identified by a unique code by the exchange. As  
5 broker codes that identify which brokers are buying and selling within the exchange automated trading system 140 may be limited by the exchange to brokers, this feature may only be available to brokers who wish to use the system with their existing broker trading system 130.

10 (v) *Automatic Volume Calculations*: This refers to a process by which the processing server 130 enables a triggering signal to automatically calculate the volume parameters for a given buy, sell or alert, in accordance with a formula specified by the user. The system uses historical information captured by the database to calculate the appropriate trigger volume based on a user defined formula (eg. average of volume of the  
15 last 10 days divided by the average true range). Triggers can automatically adjust either intra-day or at the end of the day in line with the user defined preferences.

**Announcement Triggers:** Using the stock exchange information, the system can store listed company announcements within the database. The system then runs a query  
20 through these announcements looking for specific keywords or announcement codes. These key words and or announcements codes are contained within a keywords table. Advisers and users can set up alerts to be communicated when specific announcements about companies are made, for example:

- Profit downgrades
- 25 • Profit increases
- Acquisitions
- Mergers
- Asset write-downs
- Dividend declarations
- 30 • Change of directors
- Law Suits
- ASIC inquiries into the company
- ASX inquiries into the company



- Loss of industry licenses

The system is configured to allow any number of keyword searches across all of the new announcements on any exchange and to allow any of these announcements to trigger an alert. This process activates alerts and/or triggers in real-time, as the announcements enter the processing server. These triggers can send an instruction to execute a transaction to a broker and adviser or another user. These announcement can combine to form a meaningful conditional order strategy, as opposed to a simple alert.

**Broker Code Triggers:** Using the exchange information, the system can read and interpret broker codes. These codes can be used by other brokers or authorised individuals to scan a predefined number of stocks listed in a specific stock table (for example, Top 50 ASX or Top 25 NASDAQ). The scans using the verification program 132 are designed to alert an adviser when a broker has bought or sold, or has an order to buy or sell a specific quantity of securities. The verification program 132 automatically determines whether the volume of securities purchased by any one broker is higher than normal and alerts authorised advisors accordingly.

The formula for the calculation can be based on a number of pre-defined parameters such as:

- broker volume compared to the average daily volume based on the last  $x$  periods; or
- broker volume compared to a percentage of the largest order placed during the last  $x$  periods.

### System Functions

**Update Program:** The update program 136 can be executed at the end of each day (or intra-day, weekly or other time frame specified) to modify a conditional order instruction by updating one or more of the triggers associated with that particular order. The update program 136 calls upon a pre-defined updating formula to update at any interval, including specific dates. Each pre-defined updating formula can be created by the user.

For both buy and sell orders, the system can perform trailing stops, trailing profit targets, trailing volume trigger and straddle orders, as described below.

(i) *Trailing Volume Trigger:* Using a user-defined volume, the verification program 132 continuously monitors the equity or derivative for a particular volume trigger. At the end of each day (or intra-day as required), the update program 136 automatically recalculates the relevant volume trigger in accordance with an associated, pre-defined updating formula. The trailing volume can work with many order types, including trailing stops and trailing profit targets described below.

(ii) *Trailing Stops:* Using a user-specified stop price, the verification program 132 continuously monitors the price of an equity or derivative, and generates a triggering signal whenever the price falls below a stop price. Stop price refers to the price at which the user wishes to sell or be alerted if the share price trades at or below the Stop Price. At the end of each day (or intra-day, weekly or other time frame specified by the user), the update program 136 automatically calculates the new stop price for the next trading day, based a number of definable parameters and/or formulae, as described below.

An example calculation is as follows:

$$\begin{aligned}\text{New STOP} &= (\text{Today's Low}) / (1 + x\% \text{ Acceptable Decrease}) \\ &= 1.00 / (1 + 0.05) \\ &\approx 0.95\end{aligned}$$

Therefore, the update program 136 amends the user's order so that the next day a triggering signal is generated if the price falls below \$0.95.

The update program 136 recalculates the next days stop price and only ever moves in an upward direction. The update program 136 never amends the order such that the stop price is lower than the previous day's stop price. If the share price falls during the day the stop price tomorrow may be less than the initially specified acceptable decrease. That is, the stop moves from 5% below the low of the previous day to 2%.

Although the system is set to move in one direction at the end of the trading day by default, the user can set the system to adjust the stop price intra-day and to adjust in both directions in accordance with formulaic rules set by the user when placing the order.

(iii) *Trailing Profit Targets:* This allows the user to specify a desired amount of profit they wish to make based on a specific percentage above any of the following:

- the highest traded price of the previous day

- the lowest traded price of the previous day
- the initial purchase price
- the average price of the last  $x$  days, or
- any other user-defined value contained within the exchange information.

5 At the end of each day (or intra-day, weekly or other time frame specified by the user), the update program 136 amends the definable triggers accordingly, based on the pre-selected calculation method.

10 *iv) Trailing Orders with Partial Exits:* Multiple conditions can be used to sell specific parcels of an equities or derivatives portfolio. For example, sell 1000 BHP out of 10,000 at 1.00, sell an additional 1000 out of the 9000 left at 2.00 and so on. The same principle can apply to buying stocks. For example, it may be desired to buy more stocks as the price falls over a specific time frame.

15 This requires definition of the following data fields:

- Defined parcels,
- Defined time frame in which the parcels are to be bought or sold,
- triggers that initiate the purchase or sell of each parcel,
- dependencies on the sale or purchase of each parcel (i.e. if parcel one sell then sell parcel two).

20 The same principle conditions apply as above.

- Can sell parcels in line with pre-determined plan
- Can buy parcels in line with pre-determined plan
- Parcels are put into the market with an automatic review of market depth and review of volume.
- Parcels are put into the market on the bases of confirmation of a trend.
- Can average down or average up

25 **Order Duration:** Due to the unique nature of the trailing function system, users can elect a duration in which the conditional alert/trigger will be automatically cancelled. Until the conditional alert/trigger is cancelled either by the system or the user, the verification program 132 continually monitors the triggering parameters. The system uses the system date compared to the order date to initiate expiry or any derivation thereof.

The system can automatically send a message to the user every month (or as set by the system) detailing information such as:

- the current share price,
- the order details,
- 5     • time since placing the order,
- details on how to cancel or amend the order,
- recent company announcements.

**Order Verification:** When the system receives an order confirmation signal  
10 from the trading facility 124, this is automatically compared with that stored within the relevant investor's portfolio table. The system then updates the portfolio table with the exact transaction information, and sends a message to the company covering any changed discrepancies.

15     **Auto Calculations:** An auto calculation feature automatically calculates volume triggers, stop prices and profit targets using predefined system formula (as described above). The formula for each of the triggers is stored and activated by the update program 136 at the end of each day or as specified by the user. An intra-day update program is used to calculate an order default parameters at the time of placing the order.

20     For example, the profit target for a specific equity or derivative can be specified on the basis of a pre-programmed formula. This formula can be set by the user or by the system, and is calculated on the basis of a Profit Target formula for the security. For example, a profit target could involve calculation of:

- a function of the Average True Range (ATR) of the security,
- 25     • a function of the Moving Average of the security,
- a function of the open, high, low or close of any specific trading day or trading period,
- any function of the equity or derivatives current day prices or past prices combined with a user or system defined formula.

30     Using one of the above profit target calculation methods, the system automatically updates the profit target at the end of each day (or intra-day, weekly or other time frame specified by the user). In the profit target calculation, the user or the system can define if

they want the profit target to ever fall (that is, decreases from the previous day) or if the profit target should only ever move up.

Amending Triggers Calculations: The system can allow the user to modify all  
5 triggering parameters before a triggering signal is generated. Automatic trails can be  
overwritten at any time by manually amending the order or alert, so that the verification  
program 132 will use the new parameters to evaluate the triggers.

#### Composite Conditional Order and Alert Instructions

10 Combined price and volume orders: Users can enter price and volume  
information (as earlier described) when buying, selling and monitoring equities and  
derivatives. In accordance with strategies described below, the system allows the user to  
define all aspects of the buy and sell order and to combine instructions such that an order  
contains price limits and volume requirements. For example, a user can place an order that  
15 actions a sell if the stop price is \$1.00 and the upward directional volume is greater than  
1,000,000 after a specific time (eg. 11:00am). The system does not activate an alert until  
both criteria are met at the same time.

Further, price and volume ordering can combine trailing functionality (as earlier  
described) such that the price and volume is automatically updated in accordance with a  
20 pre-defined formula with a frequency (i.e. daily, monthly etc.) defined by the user.

Straddle Orders - Equities: A straddle order is a conditional order which  
combines trailing stops and trailing profit targets, in addition to automatic trailing volume  
calculations and/or trigger delays. The user is required to define both a trailing profit  
25 target and a trailing stop loss, at the same time as a conditional buy order or after the time  
of purchase. If the user places a straddle order before the purchase is completed (ie. a  
conditional buy order), the system only begins monitoring after receiving confirmation that  
the equity is purchased.

Once the system confirms that the equity is purchased, the verification program  
30 132 monitors both the profit target and the stop price for a match. When one of the two is  
triggered and an alert is sent, the processing server 120 deletes the other conditional order  
from the table.

An example of a screen shot used to enter the parameters for straddle ordering is  
shown in Fig 20. A straddle order interface requires the stop loss parameters and the profit

target parameters to trail the equity if the order duration is greater than "day only." The user can specify buy conditions (i.e. price/volume/delay etc.) if they do not currently own the equity at the same time the straddle order is placed.

5           **Straddle Orders – Combined Equities & Derivatives:** A straddle order for equities and derivatives enables trailing stop losses and profit targets (coupled with a range of conditions) to be placed in the system to form an equities and derivative trading strategy. The user defines the equity that is desired to be bought or sold, and the conditions relevant to the purchase (eg price, volume, delay after market open). The user  
10 may also select an equity that they currently hold, instead of entering system new purchase criteria.

Once the user has entered either their purchase conditions or identified their currently held equity, the relevant sell conditions are identified using any combination of profit targets and trailing stops as described above. With the sell conditions in the system,  
15 the user then defines the conditions under which they wish to buy or sell a derivative.

This process can happen in reverse such that the user first identifies the derivative they wish to buy or sell (eg write a call) and then the underlying strategy that determines when to buy the underlying equity. Most commonly, the user will use exchange-traded options on the same equity when using this function. The system, however, enables the  
20 user to define the ticker code of another derivative. Once the ticker code is selected, the user defines what they would like to do (eg buy a put, buy a call, write a put, write a call) and the relevant information necessary to complete the alert or trigger, for example:

- Desired Strike price of the options
- Duration of option/ Options series (eg 3 months)
- 25   • Number of options contracts
- Maximum limits for options price.

The user then defines the conditions under which they would like to perform this action, for example:

- Options price reaches some value,
- 30   • Share price and volume reaches some value,
- Share price, volume and time reaches some value,
- Any combination or parameters above.

Once the user defines the appropriate conditions under which they would like to buy/sell the equity and/or buy/sell the derivative, the user then specifies what action to take if the equity is sold, and there is a derivative position in the market. The user can choose from a range of strategies including the following:

- 5           • Immediately sell the derivative (that is, sell the put options)
- Initiate another derivative strategy (that is, sell the call options)

Once specific conditions are met, the action taken is determined by the preferences set by the user, including advising the adviser/client by SMS/email or adviser system and/or sending an order to a respective broker or Straight Through processing ("STP") engine. Where the conditions on the equities position are satisfied and the system sends an order to buy or sell the equities position, the user can specify what to do about the pending derivatives position. At the time of setting the conditional preferences the user may specify strategies for the derivatives position including the following:

- Deactivate on sell of equities position
  - 15          ○ Activate regardless of equities position
  - Activate on buy and deactivate on sell.
- Once the system confirms that the equity is purchased, the verification program

132 then begins to follow the user-defined strategy.

The user may use the system solely for an options strategy. The user may use any number of conditional parameters including formulas to enable a buy or sell trigger. The process can be enabled such that the options trade occurs first with a range of conditional parameters selected to determine when and if the equity is purchased.

### Applications And Functions

25           **Risk Management Features:** Alert triggers and alert instructions can be defined to create an alert, which can be advantageously used to manage an investor's equities and/or derivatives portfolio. Alert triggers can be arranged to interface with the investor's personal risk profile and other user-defined parameters as stored on the database 133, to provide intra-day monitoring of equities and derivatives. If desired, multiple alert triggers can be defined into a single alert instruction, so that an alert will only be sent when multiple criteria are met.

In operation, investor portfolios are monitored by the verification program 132 by continuously evaluating the portfolio table for specific criteria contained within database 133. Alert triggering signals can be generated for companies and/or users.

The system integrates three primary risk management functions: (a) Personal Risk Management, (b) Adviser and Instructor Intervention, and (c) Company Intervention, each of which is described as follows:

5           (a) *Personal Risk Management*: The system is arranged to integrate two kinds of risk parameters. The first kind of risk parameter is equity and/or derivative specific and the second is portfolio specific. An example of the data fields for an investor personal risk profile could include the following:

- (i)       Max. overall % or dollar loss per trade,
- 10       (ii)       Max. % or dollar loss of capital per trade,
- (iii)       Max. % or dollar loss of profit per trade,
- (iv)       Desired % or dollar profit per trade,
- (v)       Max. overall % or dollar loss per portfolio,
- (vi)       Max. % or dollar loss of capital per portfolio,
- 15       (vii)       Max. % or dollar loss of profit per portfolio, and
- (viii)       Desired % or dollar profit per portfolio.

Once the above parameters have been recorded, the verification program 132 monitors each of the investor portfolio tables on the database 133 to ensure that throughout the day (and at the end of the day or as otherwise specified) the overall value of the portfolio and the price of the equities and derivatives do not deviate from their acceptable levels defined within the investor personal risk profile. If the verification program 132 determines that the investor portfolio deviates from the desired risk position, an alert triggering signal sends a message to the investor, either directly or via an adviser or authorised agent 125. If desired, automatic restrictions can be made to prevent buying orders being created if, for example, the investor has excess exposure as set by the company or adviser within a client meeting.

Further, user preferences can be set to have the system automatically sell or buy equities and derivatives in accordance with predefined stop prices or profit targets taken from the investor personal risk profile.

30

(b) *Adviser and Instructor Intervention*: The system can be arranged to enable advisers to receive alerts on all of their investor client portfolios. Using the investor client or adviser's risk parameters, the verification program 132 monitors all client portfolios and provides active alerts to the advisors where they are required to act on the client's behalf.



In addition to the personal risk profile, the adviser is able to specify through an adviser's preference table, the parameters in which they wish to receive alerts on client's portfolios. These parameters may be the same or different as the client's personal risk profile parameters.

Further, trainers and educators can view all portfolios not managed by advisers who deviate from parameters stored by trainers within a database table. Trainers are able to proactively contact users based on any number of security and portfolio criteria such as:

- (i) % loss on any specific trade,
- (ii) % unrealised loss within any specific trade,
- (iii) % unrealised and realised loss within the user's portfolio.

The system enables trainers and educators to set automatic messaging such that information is automatically communicated via electronic communication to the client where specific criteria is met. For example, educational information can automatically be sent to users who purchase illiquid stocks, do not have a certain level of diversification in a portfolio or who has stops too tight for a specific stock. This automated information can have an advisory and educational function.

(c) *Company Intervention:* The system can assist a company to evaluate a variety of information sets based on individual and group portfolios using the verification program to monitor all the portfolios within the system simultaneously. The system enables a company to define triggers on a third level, such that they are alerted when portfolios or individual transactions put the company or the individual at risk. The system can monitor but is not limited to monitoring the following:

- (i) Total unsettled trades,
- (ii) Trades that exceed  $x\%$  loss since purchase,
- (iii) Overall Portfolios below  $x\%$ ,
- (iv) Portfolios that deviate by  $x\%$  from risk parameters.

The system has a number of specific applications and functions that are unique and useful to the investing community. These functions draw on the order types described above.

**Paper-Trading Module:** The paper trading module 137 can help train an investor on how to trade. This paper-trading module 137 allows users to enter orders and

use the system as if "real" trades and "real" money were being used. With the paper-trading module 137, the alerts follow path (v) described above, and never reach the broker trading system 130. Instead, the alert is communicated to the user, and the transaction is updated within the user's portfolio by updating the portfolio table.

5        Using a set of predetermined paper-trading rules, the system simulates actual trading by using a program that modifies the resulting transaction, by evaluating the order based on, but not limited to, the following:

- The number of shares the user is selling or buying compared to the number on bid or offer, and the number of price levels within the market depth, as indicated  
10        in the exchange information,
- A function of the average volume and price,
- A function of the total trades during the current day.

When paper trading, the user can enter specific characteristics about their portfolios such as the portfolio size, the typical parcel size and a described personal risk  
15        profile. The paper trading module, using the verification program 132, scans the paper trading portfolios, giving the trainers active alerts and initiating automatic communication of information. The paper-trading module 137 can monitor a number of parameters, such as:

- Parcel size;
- 20        • Number of trades;
- Overall market direction;
- Shares purchased (direction/trend)
- Loss and Profit per trade;
- Overall Portfolio Exposure

25        Where a triggering signal is generated, an automatic message is sent to the user with instructional information about their portfolio and trades and to the instructor.

**Capital Gains Tax (CGT):** The system can alert users about a possible capital gain by running the verification program 132 at system-defined intervals (that is for  
30        example at 3 months and 1 month) before the end of the financial year. Depending on the country, the system is able to define when a capital gain is imminent by scanning portfolios for realised gains based on trades made within their portfolios. The system is also able to determine if conditional orders may give rise to capital gains based on conditional

orders/alerts/triggers set within the system which have not been triggered. Using a set of tolerance settings defined by the user or administrator the system can identify conditions which are likely to be hit on the basis of a trend or other factors including the closeness of a stop to the current price.

5

The system then automatically sends the information to the user or an adviser, who can act to reduce the tax. Examples of instructions that can be executed, once the system has defined that is a CGT event about to occur include:

- suspend conditions for pre-defined period
- 10      • adjust exit parameters
- cancel conditional orders.
- Execute conditional orders which will trigger a loss to offset the capital gain.

**Trend Alert and Trigger:** Using the exchange information, the system can store  
15 information within tables and to allow the user to query this historical information. The system stores a complete history of all the exchange information such that the user can enter pre-defined parameters and construct their own formulas for a range of triggering parameters. These formulas are used to calculate automatic trigger volumes, purchase and sell criteria on all equities and derivatives. The user can combine multiple instructions in  
20 the triggering formulas as allowed by the system using appropriate syntax such as:

MOV - Moving Average

ATR - Average True Range

H - High

25      L - Low

HH - Higher High

LL - Lower low

All formulas can be set to trail and change automatically as they are calculated,  
30 based on a specified time frame by the user (eg daily, monthly, yearly).

The user can then describe the conditions under which a trigger would occur for the given formula such as:

SELL when less than {Result of Formula}; or

BUY a call/ put or sell a call/put when a specific value is yielded from the formula.

5        These parameters can be combined with one or more of the triggering parameters such that the conditions on the buy and sell are not only contingent on the result of the formula being a specific number, but also contingent on other market parameters such as directional volume and time from the open of the market.

10       The user can then combine several different formulas in a straddle order for equities or the straddle order for equities and derivatives, in a manner that different formulas are used to trigger the equities and derivatives components of the order, in addition to triggering the exit stop or profit target.

An example of an order is as follows:

15       BUY shares in CWO when price  $\geq$  MOV (31) with a directional volume of 1,000,000 after 10:30

SELL when price  $\leq$  1.5 x ATR 10 as a Profit Target        OR

SELL when price = L \* 0.05 with a directional volume of 500,000 after 11:00.

20       Conditions can also be applied to a combined equities and derivatives position where all aspects of the equities order and all aspects of the derivatives order can be based on different user defined formulae being satisfied.

25       **Short Selling:** A short selling facility can be provided to allow investors to sell equities (shares) and buy the shares back when the share prices hits a specific price or volume. This facility functions in an opposite manner to the standard stoploss and profit target, in that the share is sold first, then when the share price hits a specific price, a buy order instruction is initiated, instead of a sell order instruction. Any of the above-described conditions can be reversed as required to facilitate shorting of equities and derivatives, and the process under which this can occur.

30       In summary, this facility provides sell orders with inversed profit target buys and stoploss buys. The same volume calculations, trigger delays, and ability to integrate formula into sells and buys, applies as above.

An example of one possible methodology is described with reference to Fig 16. However, it will be appreciated that more automated methodologies can also be used. At

step 40, the user enters the short sell parameters. The user in this case will usually be an advisor. Next at step 41, a confirmation is made. At step 42, a fax is automatically sent to the stock lending firm for confirmation (client authorisation is scanned into system and sent automatically once confirmation is received). The fax automatically inserts details of the trade as per the triggering parameters. At step 43, the fax is logged against a client file. At step 44, the fax is received by dealer and availability of stock is confirmed. At step 45, the sell order instruction is activated. At step 46, the trade is automatically updated with sell details or is manually entered by an adviser. At step 47, a timing log times transactions.

Stoploss or profit target facilitate the buy order which is completed through STP or another gateway.

Short selling can be interfaced with a third party system that has some automatic stock confirmation process which can return a sell confirmation signal back automatically.

**Wrap Service Integration:** A wrap service program 135 is provided to consolidate investment portfolio reporting and to enable rebalancing of each portfolio automatically in line with specific investor preferences. Hence, the wrap service program 135 can integrate reporting and portfolio management tools into one platform. Thus, the wrap service program 135 can provide improved services over those currently available from existing wrap providers. The wrap service program 135 operates in conjunction with the triggering and trading features earlier described.

The wrap service program 135 can build portfolio management capabilities into the wrap service provider's existing reporting service, or to allow a standalone "virtual" wrap on share portfolios devised by the trading features of the system. In accordance with standard charge rates, wrap providers can charge on the basis of a percentage of assets under management. A commission matrix can be applied to aspects of the system including this wrap feature.

Similarly, the wrap service program 135 allows an adviser to enter a variety of conditional parameters associated with each client's account so that the client can have their portfolio monitored and managed automatically in accordance with a predetermined investment strategy. The adviser can select specific stocks to enter in the client's portfolio, and use straddle orders (earlier described) to ensure that each share has a specified entry and exit condition.

The adviser can then dial up the brokerage as agreed for the clients and select one of two outcomes of the trigger: (i) execute on trigger, or (ii) advise on trigger. Execute on trigger simply means that the order is sent directly to an STP engine (process described above) where the advice on trigger means a message is sent using a communication method (eg email or SMS to a mobile telephone) to an adviser or dealer group.

An adviser can also select from a given pre-defined portfolio of shares. Such a portfolio can have a variety of exit and entry criteria placed on each stock. All clients who are placed in the portfolio can then have a number of parameters placed on their holdings in the portfolio. For example, a client's account can be enabled to:

- Buy and hold: where a stock within a given portfolio deviates from the parameters entered by the adviser, the client holds the stock and does not sell.

- Sell and Shift: where a stock within a given portfolio deviates from the parameters entered by the adviser, the client sells the stock and shifts their holding to a new stock that meets the portfolio criteria.

- Sell and Advise: where a stock within a given portfolio deviates from the parameters entered by the adviser, the client sells the stock and the adviser is prompted to contact the client to advise the next most appropriate course of action.

- IMA Sell: where an investor wants to buy into a portfolio, but their risk profile does not meet the collective mandate of the portfolio, IMA (individually managed account) function can allow the adviser to specify different entry and exit criteria for the investor.

- Options Enabled: where a portfolio calls for an integrated equity and derivatives strategy (i.e. straddle orders) the investor's account can be enabled or disabled for this function depending on their risk profile. For example, a portfolio mandate may include writing monthly calls against all stock within the portfolio. If clients do not want to take this strategy, their account can be disabled. The system also allow for only part of the options strategy to be disabled (eg buying puts/ writing calls etc.)

The system can sell all parcels of the clients or parts of their parcels in accordance with the functionality described herein. Further, complex portfolio strategies including conditional buy and sell strategies can be set for the portfolio. These strategies are overridden by the client account settings, which determine whether or not to buy or sell in accordance with the collective mandate.

To ensure that trading does not “move the market”, the system ensures that only those stocks that are defined by the system administrators are allowed to be put into the adviser’s portfolio (i.e. ASX top 50).

Administration functionality exists such that an adviser who is a principal dealer  
5 (meaning they can control client funds) may elect to have a single account where all client funds are kept. This enables the adviser to have one transaction (that is, a single buy or sell order) sent to a broker without a large number of smaller transactions. Brokerage would then be set to a percentage of the total amount.

To avoid market manipulation, the system can also be enabled such that only a  
10 certain number of people are able to enter into a specific portfolio with exact entry and exit criteria. The system administrator is able to choose between a number of set criteria based on the percentage of the average daily volume of particular share.

For example, the adviser is only be able to create a portfolio where the sum total of the shares purchased by their clients in a particular share does not make up more than 10  
15 – 40% of the average daily volume. This helps to ensure that those holding the shares are able to get out when the triggers are hit.

The system can also provide a feature so that market depth is reviewed before executing a transaction (that is, the number of buyers and sellers and the volume of each). If 1,000,000 shares are triggered amongst 5 people, the system automatically looks at three  
20 cents (or as specified by the user) from the current market price and reviews how many shares can be sold. Assuming that 500,000 shares are available at \$1.00, the system then automatically sells 100,000 shares from each client leaving the remaining order to execute once the market moves back to the expected price.

The system can be configured to send an automatic message to the adviser to  
25 confirm that selling or buying all the required stock is not possible. The portfolio system can then allow the adviser to select from a range of options including:

- cancelling the sell order on remaining stock that has not been executed
- send sell order at a limit or market price
- change or amend the entry or exit criteria
- 30 • send an automated email or SMS to investor clients letting them know there has only been a partial sell and to request they call to advise what they would like done.

The wrap function enables all clients to have positions - both conditional (non-executed sell or buy orders) and executed trades, consolidated into a single report. Clients and advisers are charged in accordance with a pre-defined commission matrix.

5       **Margin Watch:** Margin accounts can be managed by generating a trigger when there is an impending margin call. Using the current price of the security from the exchange information, and the user's predetermined margin parameters (including the total amount of the margin loan, and the bank's margin call rules), the verification program 132 monitors all equities and derivative positions. The user can define what action is to occur  
10 when the alert is triggered. For example, an alert could be sent in the form of a message being sent to the user. Alternatively, an order instruction could be executed, either via the adviser/broker or by way of the STP facility. Based on a given margin lender's LVR (Leverage Ratio) for a specific stock, the user can tell the system to sell the stock if the price falls (or rises with a short) to a specific price which is 5% above or below where a  
15 margin call is required. The system can also combine options/ derivatives functionality as described above to manage margin positions by writing calls or buying puts to protect a sell price when a stock gets to a specific level.

The conditional triggers described herein can be used to construct a trading strategy which enables leverage with the protection of stop positions using the advanced  
20 functionality described above.

#### **Interactive SMS Triggers:**

An interactive SMS trigger facility can be provided following from an SMS ("Short Message Service") being triggered following the confirmation by the system that  
25 user defined parameters have been met. The interactive system is designed to enable a user to receive an SMS with trade information including market price, volume, market depth and the intended execution instruction for the underlying equity or options. Contained within this message is a mobile telephone number and reference number for the pending conditional order. The user has a number of choices following receipt of the message:

30       a) Do nothing – following a period of time (eg. 20 minutes), the conditional order may be deleted or reset by the system; or

      b) Send Back an Instruction – following which the system will interpret the instruction and follow the appropriate course of action.



Using the SMS function within the user's mobile phone (or other similar device) the user may instruct the system to "execute" in accordance with the conditional instructions, cancel the conditional order or reset the conditional order. The system may provide for a range of other functions including amending conditional orders. When  
 5 sending the SMS message to the system, the user will require their unique Interactive SMS password, their trading account number and the trade reference number. The user will enter their instructions in accordance with a predefined set of instructions such as:

a = account number

t = trading password

10 e = execute as per conditions

ul = change upper limit to another value

ll = change lower limit to another value

d = delay trigger by specific time

st = change stop loss to specific value

15 vc = change cumulative volume

dv = change directional volume to some value

c = cancel

os = change options strike for conditional order to some value

cs = cancel pending straddle

20 The user would combine the instructions in a format easily recognised by the system which would authenticate the response on the basis of any number of parameters including mobile phone number, account number, trading password etc. An example format for a set of instructions send by the user is as follows:

10454-a demo-t -e Account number of 10454 with trading password

25 "demo" has instructed the system to execute in accordance with set parameters.

10323-a test-t 10.20-ul Account number of 10323 with trading password "test"

has instructed the system to modify the upper limit to 10.20 and reset the conditional order

Upon receipt of the message from the SMS service, the system will interpret the instructions and adjust the appropriate orders. If the system identifies an error within a  
 30 message another message will be sent to the user requesting they re-send the instructions to the system. If the message from the user is authenticated and actioned by the system a message will be sent by the system confirming the instructions. The same rules may apply to the second message as the first.

Although this functionality applies to devices that support SMS, other mobile technologies including WAP may be used to provide mobile interaction between the system and a messaging service. The system is designed to take instructions from a number of communication devices and can be integrated into other technology such as an  
5 interactive telephone system to allow users to use touch tone phones to interact with the system and define what they would like to do to their conditional orders.

Various alterations and modifications can be made to the techniques and arrangements described herein, as would be apparent to one skilled in the relevant art.

**CLAIMS:**

1. A method of enabling electronic administration of a portfolio of exchange-tradeable equities, derivatives or both, said method comprising the steps of:  
5 implementing a plurality of triggering rules, each being pre-defined to enable execution of a corresponding administrative action relating to the equity, derivative or both, in response to monitored real-time market conditions of the equity, derivative or both, said administrative action being an order, alert or both; and  
10 implementing pre-defined updating formulae to automatically adjust one or more triggering rule definitions according to pre-determined updating criteria.
2. The method as claimed in claim 1, comprising a triggering rule defining an order which sends an instruction to a broker trading system for vetting, after which an associated order is communicated to an exchange automated trading system.  
15
3. The method as claimed in claim 1, comprising a triggering rule defining an order which sends a message to an authorised agent for vetting, after which an associated order is communicated to an exchange automated trading system via a broker trading system.  
20
4. The method as claimed in claim 1, comprising a triggering rule defining an order which sends an instruction to a broker trading system, after which an associated order is automatically communicated to an exchange automated trading system.
- 25 5. The method as claimed in claim 1, comprising a triggering rule defining an alert which sends a risk management message to a manager of the portfolio.
6. The method as claimed in claim 1, comprising a triggering rule defining an order which sends an order instruction to a paper trading simulator.  
30
7. A method as claimed in claim 1, comprising a triggering rule in which said administrative action is enabled in response to said real-time market conditions matching one or more price parameters, and said updating formulae periodically and proportionally adjust said one or more price parameters.

8. A method as claimed in any one of claims 1 to 7, comprising triggering rule in which said administrative action is enabled in response to said real-time market conditions matching one or more volume parameters within a range of price parameters.

5

9. A method as claimed in any one of claims 1 to 7, comprising a triggering rule in which said administrative action is enabled in response to said real-time market conditions matching volume parameters with a particular broker parameter.

10

10. A method as claimed in any one of claims 1 to 7, comprising a triggering rule in which said administrative action is enabled in response to said real-time market conditions matching one or more volume parameters, and said updating formulae periodically adjust said volume parameters according to a historical average trading volumes parameter.

15

11. A method as claimed in any one of claims 1 to 7, comprising a triggering rule in which said real-time market conditions relate to an equity, derivative or both reaching a pre-defined price, and said updating formulae periodically and proportionally adjust said pre-defined price as a function of a highest or lowest recently traded price.

20

12. A method of electronically administering a portfolio of equities or derivatives or both that are tradeable on a stock exchange, said method comprising the steps of:

(i) establishing a plurality of triggering rules to provide an investment strategy for the portfolio, said triggering rules being defined to enable execution of an order or alert in response to real-time market conditions matching one or more pre-defined parameters selected from the group comprising: price, volume, price range and a particular broker;

(ii) receiving and processing data from the stock exchange in substantially real-time; and

(iii) comparing said processed real-time stock exchange data with said investment strategy and initiating said order or alert whenever a triggering rule is satisfied.

30

13. The method of claim 12, wherein said investment strategy comprises updating formulae to periodically and proportionally adjust said one or more pre-defined parameters of a respective triggering rule.

5 14. The method as claimed in claim 11 or claim 12, wherein said investment strategy comprises a trailing price triggering rule, in which said real-time market conditions relate to an equity, derivative or both reaching a pre-defined price, and said updating formulae periodically and proportionally adjust said pre-defined price as a function of a highest or lowest recently traded price.

10 15. An apparatus for administering a portfolio of exchange-tradeable equities or derivatives or both, said apparatus comprising:

input means for inputting user data;

15 receiving means for receiving market data from a stock exchange in substantially real time; and

processing means for:

(i) creating an investment strategy by defining triggering rules according to said input user data, and

20 (ii) implementing said triggering rules to enable execution of a corresponding order, alert or both, relating to an equity, derivative or both, in response to the received market data.

16. A computer program for electronically administering a portfolio of exchange-tradeable equities or derivatives or both, said program comprising:

25 code for defining and implementing a plurality of triggering rules, each said rule being defined to enable execution of a corresponding administrative action relating to an equity and/or derivative, in response to monitored real-time market conditions of the equity or derivative; and

30 code for implementing pre-defined updating formulae to automatically adjust one or more triggering rule definitions according to pre-determined updating criteria.

17. The computer program as claimed in claim 16, wherein each of said administrative actions are definable within corresponding triggering rules and comprise an order, alert or both.

18. The computer program as claimed in claim 17, comprising code for enabling an order that sends an instruction to a broker trading system for vetting, after which an associated order is communicated to an exchange automated trading system.

19. The computer program as claimed in claim 17, comprising code for enabling an order that sends a message to an authorised agent for vetting, who then communicates an associated order to an exchange automated trading system via a broker trading system.

20. The computer program as claimed in claim 17, comprising code for enabling an order that sends an instruction to a broker trading system, which then automatically communicates an associated order with an exchange automated trading system.

21. The computer program as claimed in claim 17, comprising code for enabling an alert that sends a risk management message to a manager of the portfolio.

22. The computer program as claimed in claim 17, comprising code for enabling an order that sends an order instruction to a paper trading simulator.

23. The computer program as claimed in claim 17 comprising code for a price triggering rule, wherein said administrative action is enabled in response to said real-time market conditions matching one or more price parameters, and said updating formulae periodically and proportionally adjust said one or more price parameters.

24. The computer program as claimed in any one of claims 17 to 23, comprising code for a volume triggering rule, wherein said administrative action is enabled in response to said real-time market conditions matching one or more volume parameters within a range of price parameters.

25. The computer program as claimed in any one of claims 17 to 23, comprising code for a volume triggering rule wherein said administrative action is enabled

in response to said real-time market conditions matching volume parameters with a particular broker parameter.

26. The computer program as claimed in any one of claims 17 to 23, comprising code for a volume triggering rule, wherein said administrative action is enabled in response to said real-time market conditions matching one or more volume parameters, and wherein said updating formulae periodically adjust said volume parameters according to an historical average trading volumes parameter.

27. The computer program as claimed in any one of claims 17 to 23, comprising code for a trailing price triggering rule, wherein said real-time market conditions relate to an equity, derivative or both reaching a pre-defined price, and said updating formulae periodically and proportionally adjust said pre-defined price as a function of a highest or lowest recently traded price.

28. A method of electronically administering a portfolio of equities or derivatives or both tradeable on a stock exchange, said method comprising the steps of:

- (i) establishing an investment strategy for the portfolio;
- (ii) receiving and processing data from the stock exchange in substantially real-time;
- (iii) comparing said processed real-time stock exchange data with said investment strategy for a match, by which an order or an alert trigger is generated;
- (iv) initiating the alert or the order; and
- (v) repeating steps (ii) to (iv) during operation of said method.

29. A computer data signal embodied in a carrier wave, said signal comprising:

code for implementing a plurality of triggering rules to enable administration of a portfolio of exchange-tradeable equities or derivatives or both, each of said triggering rules being pre-defined to enable execution of as corresponding administrative action relating to an equity and/or derivative, in response to monitorable, corresponding real-time market conditions of the equity or derivative; and

code for implementing pre-defined updating formulae to automatically adjust one or more triggering rule definitions according to monitorable, pre-determined updating criteria.

5           30.     A system for administering a portfolio of exchange-tradeable equities or derivatives or both, said system comprising:

input means for inputting user data related to an investment strategy;

receiving means for receiving market data from a stock exchange in substantially real time; and

10           implementing means for implementing a plurality of triggering rules, each being pre-defined to enable execution of a corresponding administrative action relating to an equity and/or derivative, in response to the received market data.

          31.     A method for enabling electronic administration of a portfolio of exchange-tradeable equities or derivatives or both, said method comprising the steps of:

15           defining a plurality of triggering rules to enable execution of a corresponding administrative action relating to said equity, derivative or both;

defining updating formulae to enable automatic adjustment of one or more triggering rule definitions;

20           monitoring real-time market conditions to implement said triggering rules; and monitoring updating criteria to implement said updating formulae.

          32.     A method of enabling electronic administration of a portfolio of exchange-tradeable equities, derivatives or both, said method comprising the steps of:

25           implementing a plurality of triggering rules, each being pre-defined to enable execution of a corresponding administrative action relating to the equity, derivative or both, in response to monitored real-time market conditions of the equity, derivative or both, said administrative action being an order, alert or both; and

          implementing pre-defined updating formulae to automatically adjust one or more triggering rule definitions according to pre-determined updating criteria,

30           wherein said plurality of triggering rules comprises any one or more of the following:

(i) a triggering rule in which said administrative action is enabled in response to said real-time market conditions matching one or more price



parameters, and said updating formulae is to periodically and proportionally adjust said one or more price parameters,

(ii) a triggering rule in which said administrative action is enabled in response to said real-time market conditions matching one or more volume parameters within a range of price parameters,

(iii) a triggering rule in which said administrative action is enabled in response to said real-time market conditions matching one or more volume parameters, and said updating formulae is to periodically adjust said volume parameters according to a historical average trading volume parameter, and

(iv) a triggering rule in which said administrative action is enabled in response to said real-time market conditions matching volume parameters with a particular broker parameter,

(v) a triggering rule in which said real-time market conditions relate to an equity, derivative or both reaching a pre-defined price, and said updating formulae is to periodically and proportionally adjust said pre-defined price as a function of a highest or lowest recently traded price.

33. The method as claimed in claim 32, in which at least one of said triggering rules defines an order which sends an instruction to a broker trading system for vetting, after which an associated order is communicated to an exchange automated trading system.

34. The method as claimed in claim 32, in which at least one of said triggering rules defines an order which sends a message to an authorised agent for vetting, after which an associated order is communicated to an exchange automated trading system via a broker trading system.

35. The method as claimed in claim 32, in which at least one of said triggering rules defines an order which sends an instruction to a broker trading system, after which an associated order is automatically communicated to an exchange automated trading system.

36. The method as claimed in claim 32, in which at least one of said triggering rules defines an alert which sends a risk management message to a manager of the portfolio.

5 37. The method as claimed in claim 32, in which at least one of said triggering rules defines an order which sends an order instruction to a paper trading simulator.

38. A method for enabling electronic administration of a portfolio of  
10 exchange-tradeable equities or derivatives or both, said method being substantially as described herein in relation to any one embodiment with reference to the drawings.

39. A method for administering a plurality of portfolios of exchange-tradeable equities or derivatives or both, said method being substantially as described  
15 herein in relation to any one embodiment with reference to the drawings.

40. A computer program for electronically administering a portfolio of exchange-tradeable equities or derivatives or both, said program being substantially as described herein in relation to any one embodiment with reference to the drawings.

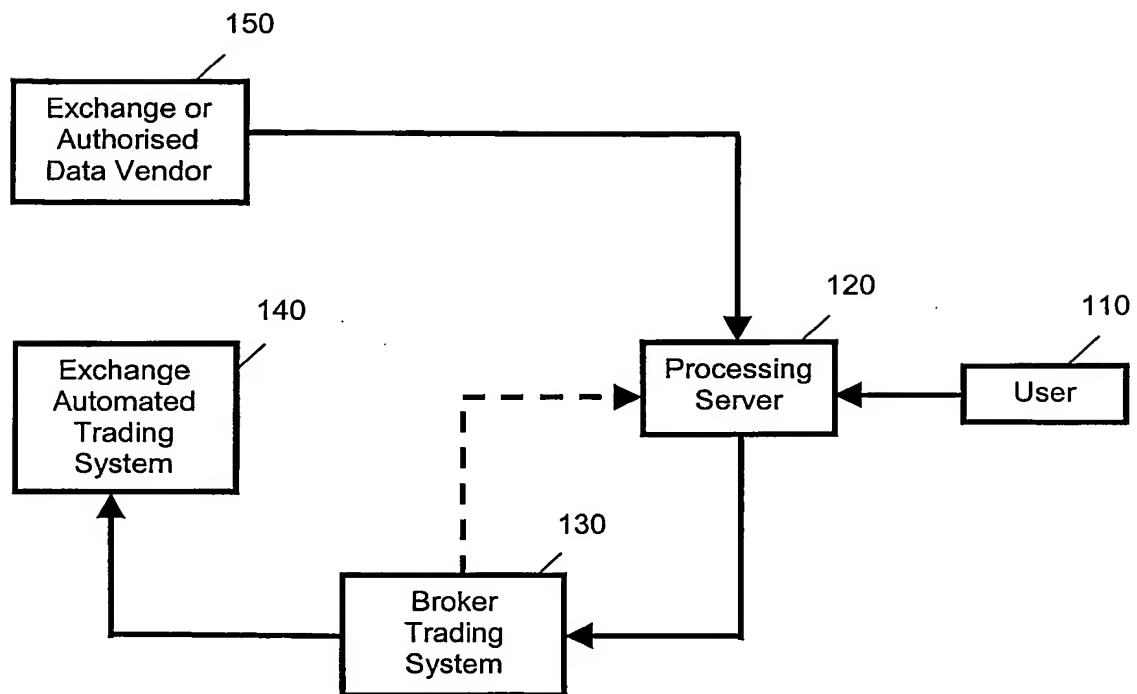


FIG. 1

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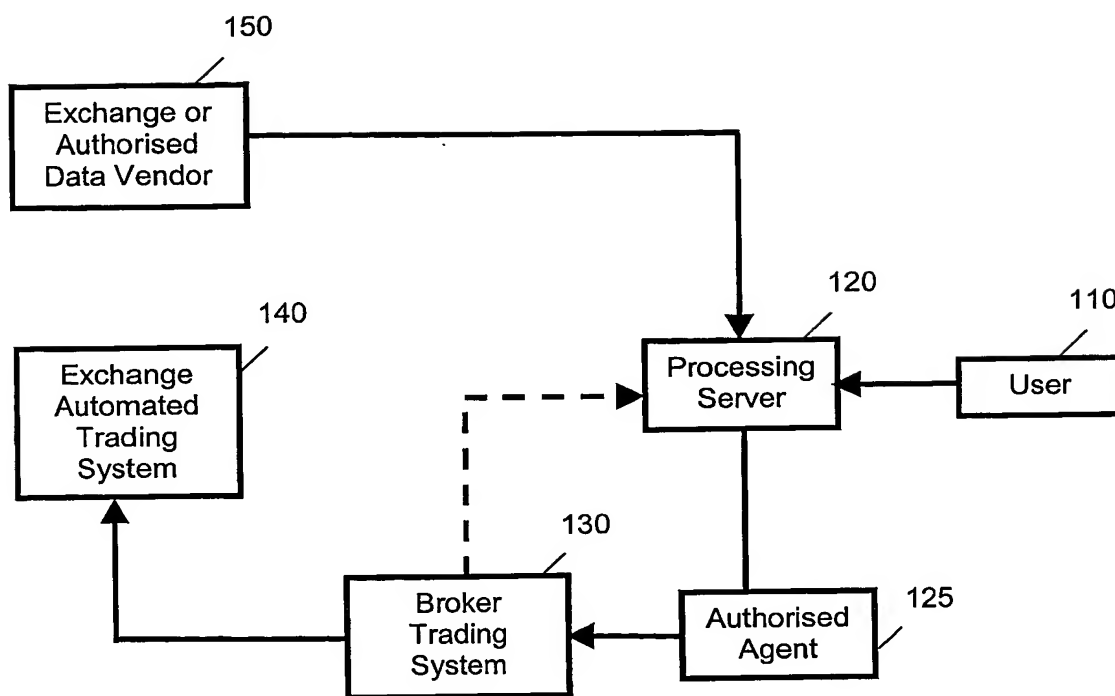


FIG. 2

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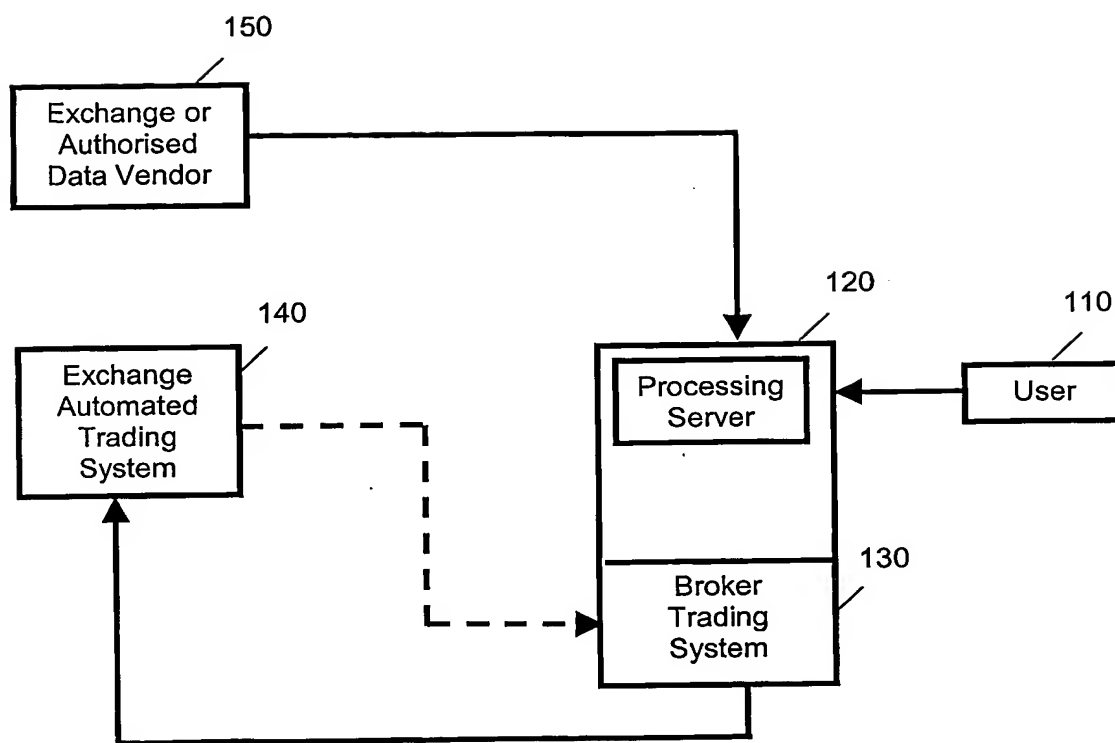
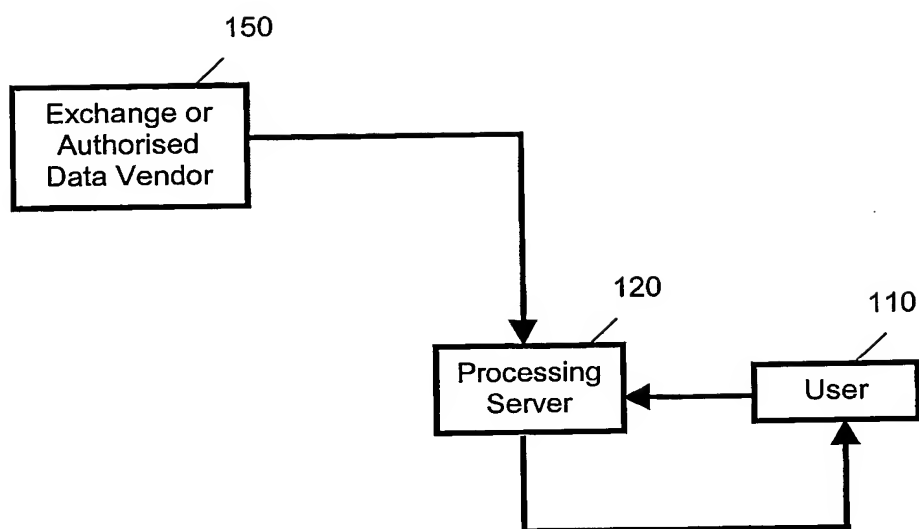


FIG. 3

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**FIG. 4**

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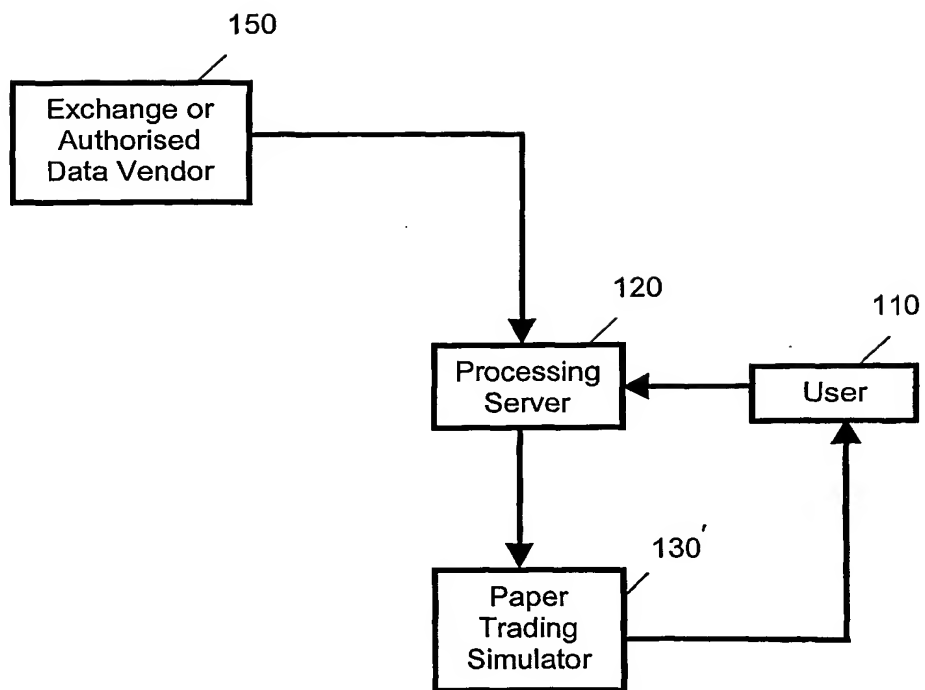
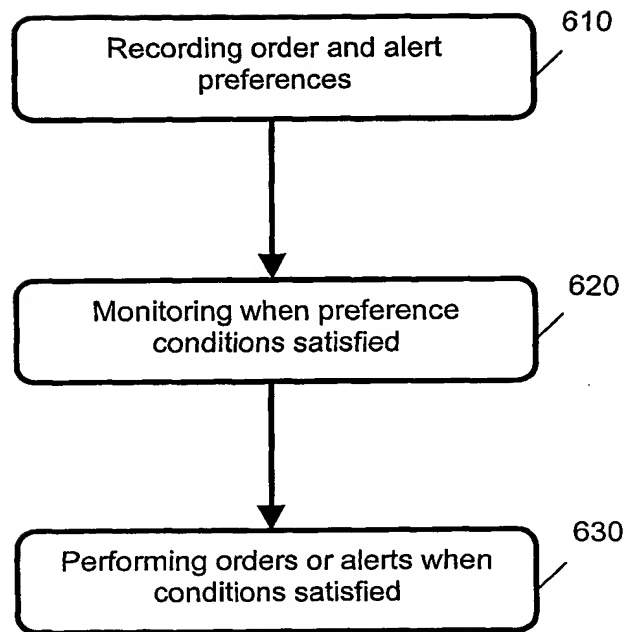


FIG. 5

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**FIG. 6**



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Sell Order Request Form - Microsoft Internet Explorer	
<b>Required - Parameters - SELL ORDER</b>	
Exchange	ASX
Ticker Code	<input type="text"/> Find Quote
Qty	<input type="text"/>
Instruction	Good for the day only
<b>Optional - Parameters</b>	
Trigger Price	Below <input type="text"/> (Enter as 1.00 for \$1.00)
Trigger Volume	<input type="checkbox"/> Auto Calc OR <input type="text"/> (Enter as 1000 for 1000 shares)
Trailing Stoploss	<input type="text"/> % (Enter as 5 for 5%)
<b>Optional - Confirmation</b>	
Confirmation Via	<input type="checkbox"/> Email
Place Sell Order Cancel	

FIG. 7A

Buy Order Request Form - Microsoft Internet Explorer	
<b>Required - Parameters - BUY ORDER</b>	
Exchange	ASX
Ticker Code	<input type="text"/> (eg: bhp for BHP^ALI) Find Quote
Qty	<input type="text"/>
Instruction	Good for the day only
<b>Optional - Parameters</b>	
Upper Limit	<input type="text"/> (Enter as 1.00 for \$1.00)
Lower Limit	<input type="text"/> (Enter as .80 for \$0.80)
Trigger Volume	<input type="checkbox"/> Auto Calc <input type="text"/> (Enter as 1000 for 1000 shares)
<b>Optional - Confirmation</b>	
Confirmation Via	<input type="checkbox"/> Email
Place Buy Order Cancel	

FIG. 7B

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Conditional Order Request - Microsoft Internet Explorer

---

**Order Conditional Trade**

Exchange   (eg: bhp for BHP^AU)

Order Type

Ticker Code

Qty

Instruction

---

**Parameters**

TriggerPrice  (Enter as 1.00 for \$1.00)

Trigger Volume  (Enter as 1000 for 1000 shares)

---

**Sell Parameters (Both Parameters must be entered)**

Sell Parameter 1:

Profit Target  % (Enter as 10 for 10%) OR  (Enter as 2.00 for \$2.00)

---

Sell Parameter 2:

Trailing Stoploss %  % (Enter as 5 for 5%) OR

Trailing Stoploss Val.  (Enter as 1.00 for \$1.00)

Confirmation Via ☐ Email ☐ SMS ☐ Pager

---

Please note that all orders are not executed by MetaShare International Pty Ltd. MetaShare works in affiliation with brokers offering an integrated order entry system designed to use the Principles MetaShare teaches. All transactions conducted through the MetaShare order entry system are held on the MetaShare Database server until the above parameters are hit. At this time the order is then sent to a participating broker. MetaShare is not liable for any order whatsoever. MetaShare's liability for any failure of it's IT systems or software in general is strictly limited to the costs charged by the broker for the transaction. MetaShare is NOT the responsible entity for the trades and therefore accepts no liability for their execution. Traders should use the order entry system with the understanding that they are not afforded the same protection as

FIG. 8

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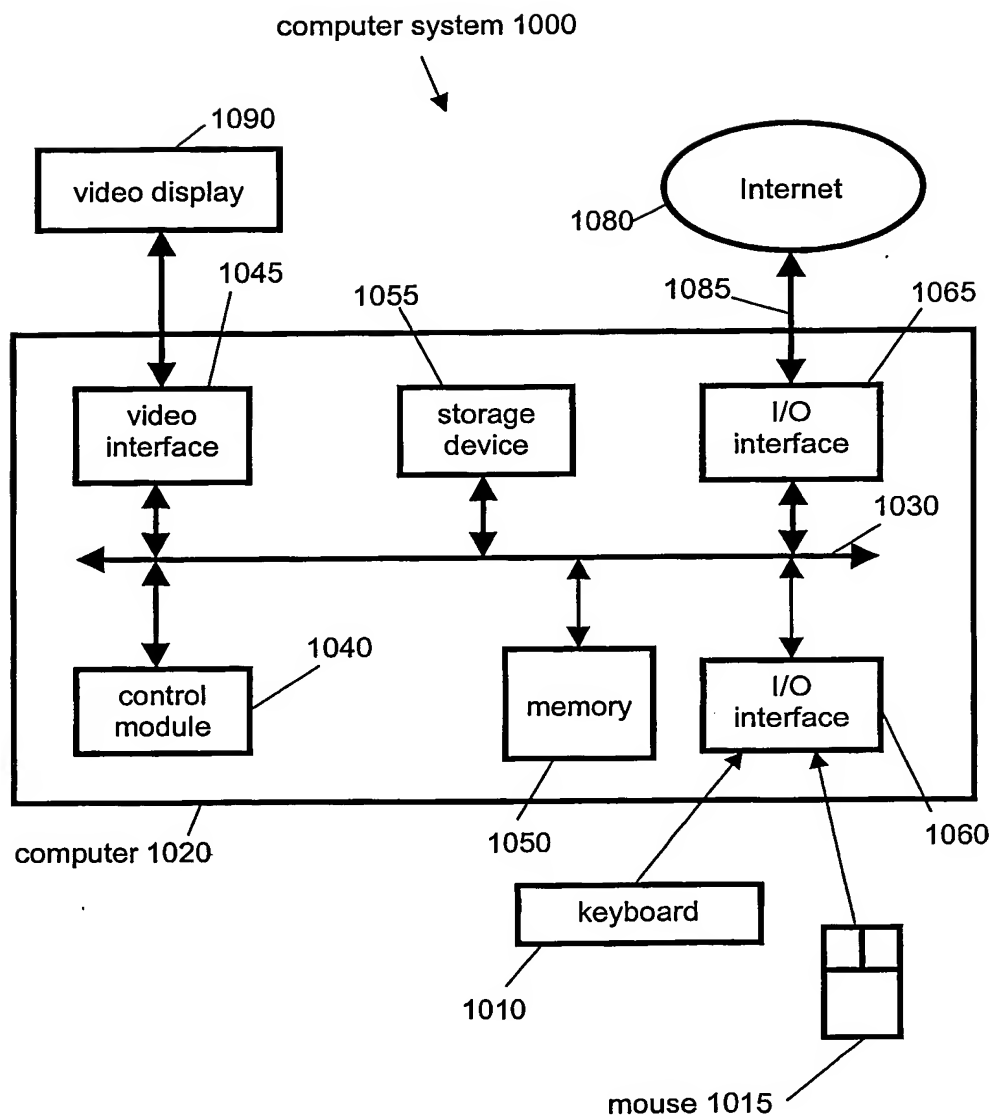


FIG. 9

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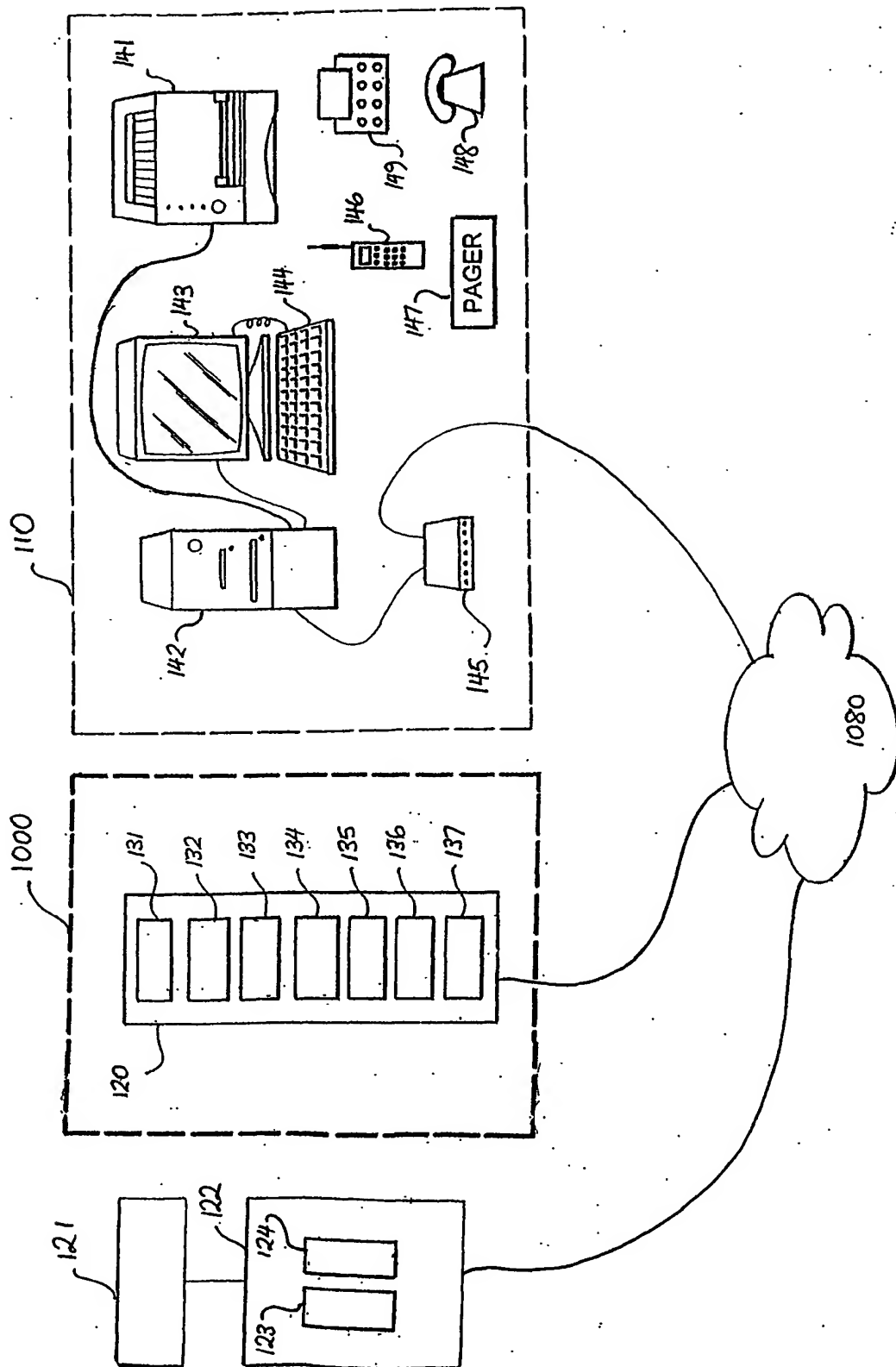


FIG. 10

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Order Details - Shares <input checked="" type="checkbox"/> NEW Order <input type="checkbox"/> Record Transaction <input type="checkbox"/> Place Alert	
Exit Parameters	
Order Date: 17/07/02	<input checked="" type="checkbox"/> Profit Target
Account: 8886454	Trailing Calculation Above: Daily <input type="text"/> 10 %
Position: Long	<input type="checkbox"/> Stoploss
Order Type: Buy	Trailing Calculation Below: Daily <input type="text"/> 5 %
Exchange: ASX	Alert From: 17/07/02 to 31/07/02
Ticker Code: CBA	Initiate Options Order When:
Quantity: 50000	Share Price: Greater than or equal to <input type="text"/> 31.00
Delay: 0 minutes	to Limit of: <input type="text"/> 32.00
Trigger Price: <input type="text"/>	Trgr Volume: <input type="text"/>
Limit Price: <input type="text"/>	Instruction: GTC - Good Until Cand
Trigger Volume: <input type="text"/>	On Trigger: NTF - Notify Me
Commission: 0 % 0 \$ 0.07	Confirmation: <input checked="" type="checkbox"/> Email <input checked="" type="checkbox"/> SMS
Instruction: GTC - Good Until Cand	
On Trigger: STP - Straight Through	
Confirmation: <input checked="" type="checkbox"/> Email <input checked="" type="checkbox"/> SMS	
Place Order	Reset Cancel
COMMENTS: <input type="checkbox"/> Advice <input checked="" type="checkbox"/> No Advice Client want to purchase CBA at market and be alerted when CBA hits at least 31.00 for the opportunity to write calls.	

FIG. 11

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Order Details - Shares		<input checked="" type="checkbox"/> NEW Order		<input type="checkbox"/> Record Transaction		<input type="checkbox"/> Place Alert	
Exit Parameters							
Order Date:	17/07/02	<input checked="" type="checkbox"/> Profit Target					
Account:	65464643	Find		Trailing Calculation	Daily	10	%
Position:	Long			Purchase Price			
Order Type:	Buy			<input type="checkbox"/> Stoploss			
Exchange:	ASX			Trailing Calculation	Daily		%
Ticker Code:	NCP	Find		Yesterday's Low			
Quantity:	300000			<input checked="" type="checkbox"/> Option Writer			
Delay:	30 minute	after Open		Alert From		To	
Trigger Price	10.00			Initiate Options Order When:			
Limit Price	11.00			Share Price	Less than or equal to		
Trigger Volume	1000000			to Limit of:			
Commission:	<input type="radio"/> % <input type="radio"/> \$ 0.075			Trig Volume			
Instruction:	GTC - Good Until Cand			Instruction:	GTC - Good Until Cand		
On Trigger:	NTF - Notify Me			On Trigger:	NTF - Notify Me		
Confirmation:	<input checked="" type="checkbox"/> Email <input checked="" type="checkbox"/> SMS			Confirmation:	<input checked="" type="checkbox"/> Email <input checked="" type="checkbox"/> SMS		
COMMENTS: <input type="checkbox"/> Advice <input checked="" type="checkbox"/> No Advice							
Client places conditional buy order for NCP with profit target but no stop. Stop will be placed by the purchase of a put at 9.75.							
Place Order		Reset		Cancel			

FIG. 12

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Order Details - Options		<input type="checkbox"/> New Order		<input checked="" type="checkbox"/> Record Transaction	
<div> <input type="checkbox"/> Share Alert / STP Order Alert From <input type="text"/> TO <input type="text"/> </div>					
Order Date:	17/07/02	Share Alert From	17/07/02	to	31/07/02
Account:	886565	Exchange:	ASX	Initiate Share Order / Alert When:	Delay: 30 minute after Open
Market:	ETO	Order Type:	Alert	Share Price	Greater than or equal to
Option Code:	NCP SM	Ticker Code:	NCP	IS:	10.49
Trade Type:	Call	Quantity:		to Limit of:	
Order Type:	Write	Commission:	0 % 0 \$	Tgr Volume	
Expiry Date:	Aug 2002	Instruction:	GTC - Good Until Can	Confirmation:	<input checked="" type="checkbox"/> Email <input checked="" type="checkbox"/> SMS
No. of contracts:	300	On Trigger:	NTF - Notify Me		
Strike Price:	1050				
Option Price:	0.84	On Purchase - Share Exit Parameters			
Commission:	0 % 0 \$ 1.0	<input type="checkbox"/> Profit Target			
Instruction:	GTC - Good Until Can	Tailing Calculation Above	Daily		Yesterdays High
On Trigger:	NTF - Notify Me	<input type="checkbox"/> Stoploss			
Confirmation:	<input checked="" type="checkbox"/> Email <input checked="" type="checkbox"/> SMS	Tailing Calculation Below	Daily		Yesterdays Low
<div> <input checked="" type="checkbox"/> Comments <input checked="" type="checkbox"/> Advice <input checked="" type="checkbox"/> No Advice         </div>					
<div>           Client wishes to write calls on NZP and be alerted when it rallies above 10.49.         </div>					
Place Order		Reset		Cancel	

FIG. 13

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Order Details - Options		<input type="checkbox"/> NEW Order		<input checked="" type="checkbox"/> Record Transaction	
Order Details		<input type="checkbox"/> Share Alert / STP Order Alert From		TO	
Order Date:	17/07/02	Share Alert From	17/07/02	To	31/07/02
Account:	086565	Exchange:	ASX	Initiate Share Order / Alert When:	
Market:	ETO	Order Type:	Buy	Delay:	30 minutes after Open
Option Code:	NCP5M	Ticker Code:	NCP	Share Price	Greater than or equal to
Trade Type:	Call	Quantity:	300000	to Limit of:	10.55
Order Type:	Write	Commission:	0 %	Trgr Volume	100000
Expiry Date:	Aug 2002	Instruction:	GTC - Good Until Cant	Confirmation:	Email <input checked="" type="checkbox"/> SMS
No. of contracts:	300	On Trigger:	STP - Straight Through		
Strike Price:	1050				
Option Price:	0.84				
Commission:	0 %				
Instruction:	GTC - Good Until Cant				
On Trigger:	NTF - Notify Me				
Confirmation:	Email <input checked="" type="checkbox"/> SMS				
<div> <input type="button" value="Place Order"/> <input type="button" value="Reset"/> <input type="button" value="Cancel"/> </div>					
<div> <input checked="" type="checkbox"/> Profit Target           <div>             Trailing Calculation Above             <div>               Once OnP 10 %               Yesterday's High             </div> </div> </div> <div> <input checked="" type="checkbox"/> Stoploss             Trailing Calculation Below             <div>               Daily 10 %               Yesterday's Mean             </div> </div> <div> <input type="checkbox"/> Comments             <input type="checkbox"/> Advice             <input checked="" type="checkbox"/> No Advice           </div> <div>             Client wishes to write calls on NCP and buy the physical stock if it rallies. They have requested no notification as they are going on holidays.           </div>					

FIG. 14



Conditional Buy Order Pad - Microsoft Internet Explorer	
Required - Parameters - Conditional Buy Order	
Order Type	<input type="button" value="BUY"/>
Exchange	<input type="button" value="ASX"/>
Ticker Code	<input type="text" value="BHP"/> <input type="button" value="Find"/>
Qty	<input type="text" value="1000"/>
Instruction	<input type="button" value="Good for the day only"/>
Conditional Parameters	
<div> <input checked="" type="radio"/> Type 1           <div> <input type="text"/> Upper Limit  <input type="text"/> Volume  <input type="text"/> Trigger Price           </div> </div> <div> <input type="radio"/> Type 2            </div> <div> <input type="radio"/> Type 3            </div> <div> <input type="radio"/> Type 4            </div>	
Auto Calculate Trigger Volume <input type="checkbox"/>	
Confirmation	
Confirmation Via	<input checked="" type="checkbox"/> Email
<input type="button" value="Place Buy Order"/> <input type="button" value="Cancel"/>	

FIG. 15

StraddleOrder Pad - Microsoft Internet Explorer

Required - Parameters - Straddle Order

ExchangeASXFind

Ticker Code

Qty

InstructionGood for the day only

Optional - Parameters

Type 1

Upper Limit

Volume

Trigger Price

Type 2

Type 3

Type 4

Auto Calculate Trigger Volume

Profit Target

Type 1

Auto Calculate Trigger Volume

Trigger Price

Type 2

Volume

Trigger Price

Type 1

Auto Calculate Trigger Volume

Trigger Price

Type 2

Volume

Trigger Price

Auto Calculate Trigger Volume

Trigger Price

Auto Calculate Trigger Volume

Trigger Price

Auto Calculate Trigger Volume

Trigger Price

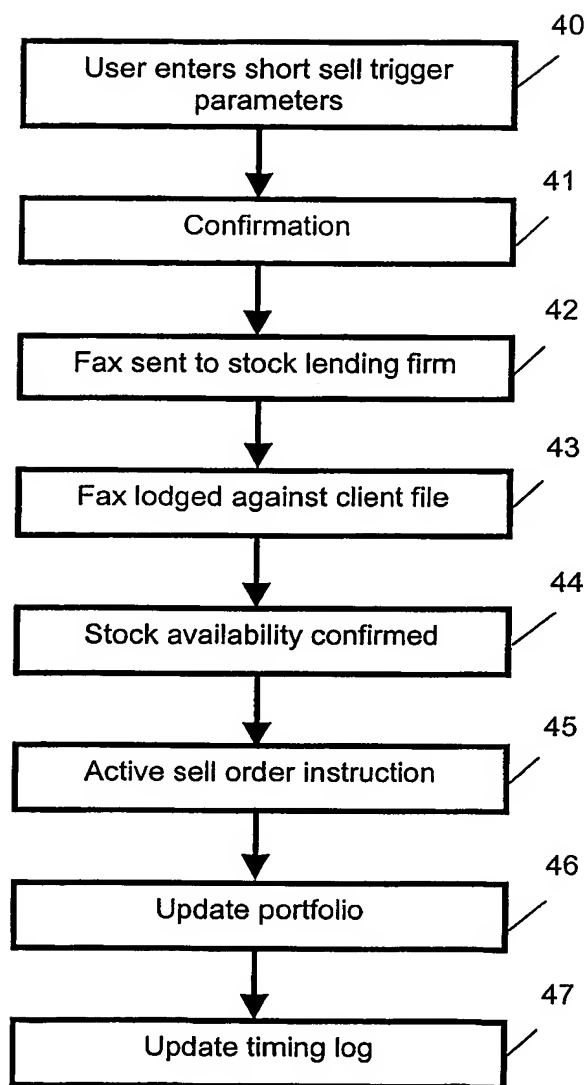
Optional - Confirmation

Confirmation ViaEmail

Place StraddleOrderResetCancel

FIG. 16

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**FIG. 17**

## INTERNATIONAL SEARCH REPORT

International application No.

PCT/AU03/00091

<b>A. CLASSIFICATION OF SUBJECT MATTER</b>												
Int. Cl. 7: G06F 17/60												
According to International Patent Classification (IPC) or to both national classification and IPC												
<b>B. FIELDS SEARCHED</b>												
Minimum documentation searched (classification system followed by classification symbols)												
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched												
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) WPAT, G06F 17/60 and Keywords (trading, shares, criteria, trigger, investment)												
<b>C. DOCUMENTS CONSIDERED TO BE RELEVANT</b>												
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.										
X	Derwent Abstract Accession No. 2001-022809/03, Class T01, SE 9900958 A (STANSPOREN CITYGATE) 18 September 2000 Abstract Only	1 to 40										
X	US 5872921A (Zahariev et al.) 16 February 1999 Whole Document, See particularly Column 4 line 45 onwards	1 to 40										
X	US 6088685A (Kiron et al.) 11 July 2000 Whole Document	1 to 40										
<input checked="" type="checkbox"/> Further documents are listed in the continuation of Box C <input checked="" type="checkbox"/> See patent family annex												
<p>* Special categories of cited documents:</p> <table border="0"> <tr> <td>"A" document defining the general state of the art which is not considered to be of particular relevance</td> <td>"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention</td> </tr> <tr> <td>"E" earlier application or patent but published on or after the international filing date</td> <td>"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone</td> </tr> <tr> <td>"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)</td> <td>"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art</td> </tr> <tr> <td>"O" document referring to an oral disclosure, use, exhibition or other means</td> <td>"&amp;" document member of the same patent family</td> </tr> <tr> <td>"P" document published prior to the international filing date but later than the priority date claimed</td> <td></td> </tr> </table>			"A" document defining the general state of the art which is not considered to be of particular relevance	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention	"E" earlier application or patent but published on or after the international filing date	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone	"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art	"O" document referring to an oral disclosure, use, exhibition or other means	"&" document member of the same patent family	"P" document published prior to the international filing date but later than the priority date claimed	
"A" document defining the general state of the art which is not considered to be of particular relevance	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention											
"E" earlier application or patent but published on or after the international filing date	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone											
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art											
"O" document referring to an oral disclosure, use, exhibition or other means	"&" document member of the same patent family											
"P" document published prior to the international filing date but later than the priority date claimed												
Date of the actual completion of the international search 15 April 2003		Date of mailing of the international search report 24 APR 2003										
Name and mailing address of the ISA/AU AUSTRALIAN PATENT OFFICE PO BOX 200, WODEN ACT 2606, AUSTRALIA E-mail address: pct@ipaaustralia.gov.au Facsimile No. (02) 6285 3929		Authorized officer  DICKSON LEOW Telephone No : (02) 6283 2372										

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**INTERNATIONAL SEARCH REPORT****International application No.**  
**PCT/AU03/00091**

<b>C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT</b>		
<b>Category*</b>	<b>Citation of document, with indication, where appropriate, of the relevant passages</b>	<b>Relevant to claim No.</b>
X	WO 01/33316 A2 (UNIX INC.) 10 May 2001 Whole Document	1 to 40

## INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/AU03/00091

This Annex lists the known "A" publication level patent family members relating to the patent documents cited in the above-mentioned international search report. The Australian Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

Patent Document Cited in Search Report			Patent Family Member				
SE	9900958	NONE					
US	5872921	NONE					
US	6088685	US	5806048	US	2002013755	US	2002023035
		US	2002128951	US	2002143676	US	2003004851
		US	2003009400	US	2003009404	US	2003009405
WO	200133316	AU	200136412				
0				END OF ANNEX			